



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,049	04/15/2004	Kiyoshi Nishikawa		7408

7590 03/23/2007
Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD
Suite 2500
300 South Wacker Dr.
Chicago, IL 60606

EXAMINER

RENNER, CRAIG A

ART UNIT	PAPER NUMBER
----------	--------------

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/825,049

Applicant(s)

NISHIKAWA ET AL.

Examiner

Craig A. Renner

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 05 January 2007. These drawings are accepted.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuroda et al. (US 2003/0021063).

Kuroda et al. (US 2003/0021063) teaches a single pole magnetic head (FIG. 1, for instance) comprising an auxiliary pole (3); a main pole (between 1 and 3) terminated at a position receding from a medium-opposed surface (28), the main pole having a rear magnetically connected to the auxiliary pole (as shown in FIG. 1, for instance) and a lower surface opposed to the auxiliary pole (as shown in FIG. 1, for instance); an intermediate magnetic layer (includes 1 and 26) extending forward toward the medium-opposed surface from an upper surface of the main pole and terminating at a position receding from the medium-opposed surface (as shown in FIG. 1, for instance); and a tip magnetic layer (27) extending to the medium-opposed surface from an upper surface of

Art Unit: 2627

the intermediate magnetic layer (as shown in FIG. 1, for instance), and being exposed at the medium-opposed surface (as shown in FIG. 1, for instance) [as per claim 1]; wherein a front end of the intermediate magnetic layer is positioned closer to the medium-opposed surface than a front end of the main pole (as shown in FIG. 1, for instance) [as per claim 2]; wherein a primary magnetic pole tip region is defined in the tip magnetic layer (as shown in FIG. 7, for instance), the primary magnetic pole tip region extending rearward from the medium-opposed surface, keeping a constant lateral width (as shown in FIG. 7, for instance) [as per claim 3]; wherein a front end of the intermediate magnetic layer is positioned closer to the medium-opposed surface than a rear end of the primary magnetic pole tip region (as shown in FIG. 7, for instance) [as per claim 4]; wherein a flat surface is defined on a surface of the main pole so as to receive the intermediate magnetic layer (as shown in FIG. 1, for instance) [as per claim 6]; and wherein a flat surface is defined on a surface of the intermediate magnetic layer so as to receive the tip magnetic layer (as shown in FIG. 1, for instance) [as per claim 7].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2627

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al. (US 2003/0021063).

Kuroda et al. (US 2003/0021063) teaches the single pole magnetic head as detailed in paragraph 3, supra, further wherein the primary magnetic pole tip region has a front end surface exposed at the medium-opposed surface (as shown in FIG. 1, for instance). Kuroda et al. (US 2003/0021063), however, remains silent as to "a leading edge of the front end surface being reduced in lateral width than a trailing edge of the front end surface."

Official notice is taken of the fact that it is notoriously old and well known in the thin film magnetic head art to have a leading edge of a front end surface be reduced in lateral width than a trailing edge of the front end surface in the same field of endeavor for the purpose of improving recording. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had a leading edge of the front end surface of Kuroda et al. (US 2003/0021063) be reduced in lateral width than a trailing edge of the front end surface. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had a leading edge of the front end surface of Kuroda et al. (US 2003/0021063) be reduced in lateral width than a trailing edge of the front end surface since such improves recording.

Pertinent Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Sato et al. (US 2002/0109946), Shukh et al. (US

2004/0252415), and Sasaki et al. (US 2005/0128639), which each individually teaches a single pole magnetic head comprising an auxiliary pole; a main pole terminated at a position receding from a medium-opposed surface, the main pole having a rear magnetically connected to the auxiliary pole and a lower surface opposed to the auxiliary pole; an intermediate magnetic layer extending forward toward the medium-opposed surface from an upper surface of the main pole and terminating at a position receding from the medium-opposed surface; and a tip magnetic layer extending to the medium-opposed surface from an upper surface of the intermediate magnetic layer, and being exposed at the medium-opposed surface.

Allowable Subject Matter

7. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2627

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2627

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Craig A. Renner
Primary Examiner
Art Unit 2627

CAR